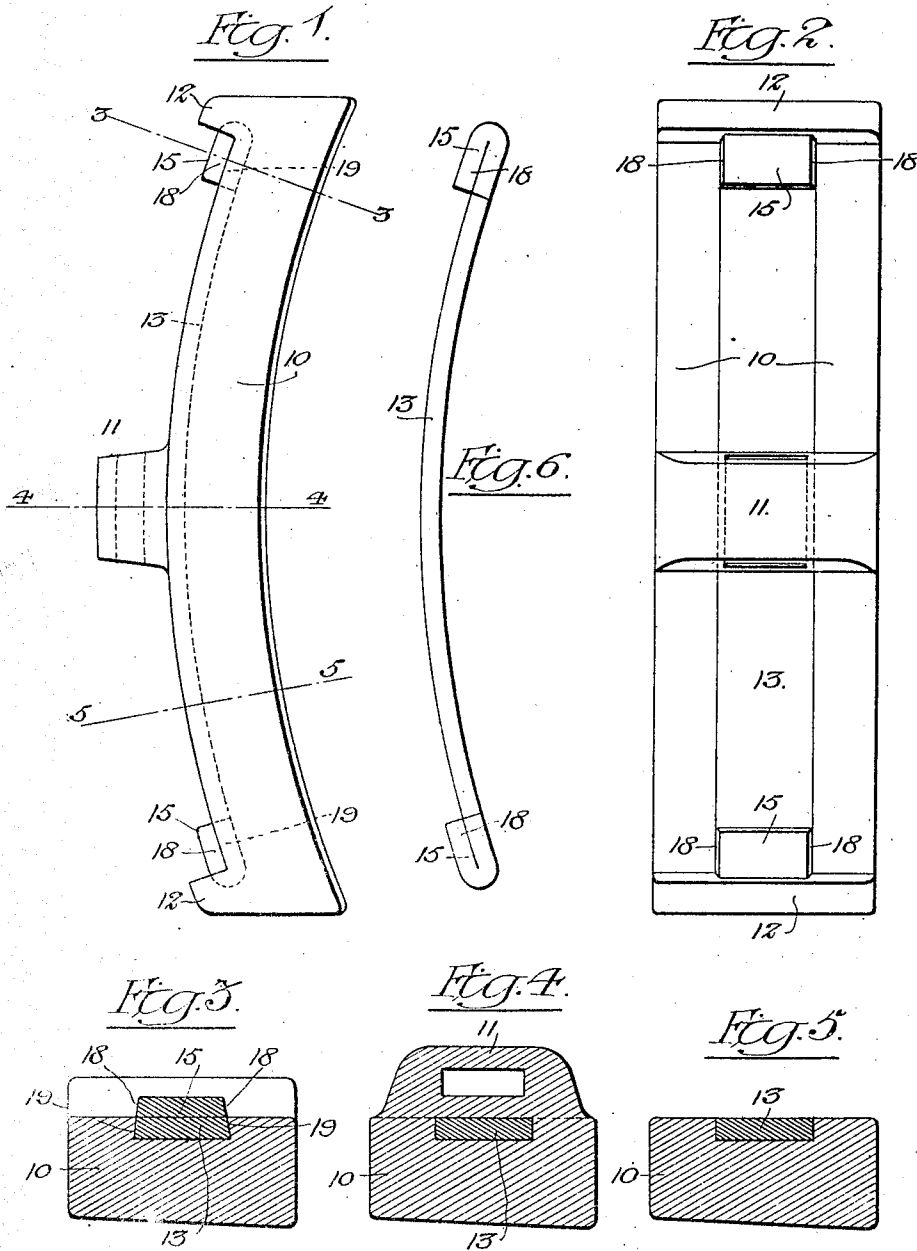


No. 892,078.

PATENTED JUNE 30, 1908.

C. D. PETTIS.  
BRAKE SHOE.

APPLICATION FILED APR. 4, 1908.



Witnesses:-

*John H. ...*  
*Nathaniel ...*

Inventor:-

*Clifton D. Pettis*

By:- *Reuel + Fisher*  
Attys:-

# UNITED STATES PATENT OFFICE.

CLIFTON D. PETTIS, OF CHICAGO, ILLINOIS.

## BRAKE-SHOE.

No. 892,078.

Specification of Letters Patent.

Patented June 30, 1908.

Application filed April 4, 1908. Serial No. 425,263.

*To all whom it may concern:*

Be it known that I, CLIFTON D. PETTIS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brake-Shoes, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

The present invention has relation to that class of brake shoes commonly known as composite or "steel back" shoes.

The invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawing and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in side elevation of a brake shoe embodying my invention. Fig. 2 is a back view of my improved shoe. Fig. 3 is a view in cross section on line 3—3 of Fig. 1. Fig. 4 is a view in cross section on line 4—4 of Fig. 1. Fig. 5 is a view in cross section on line 5—5 of Fig. 1. Fig. 6 is a detail view in side elevation of my improved strengthening back plate.

The body 10, the central key lug 11 and the raised end portions 12 of the shoe will be formed of cast metal in the usual manner. In the back of the shoe is embedded the strengthening back plate 13 that is formed of ductile metal such as wrought iron or soft steel. As shown, the ends of the back plate 13 terminate at or slightly within the raised end portions 12 and the top of the back plate 13 is preferably flush with the back of the shoe, except at the central lug 11 which extends above and over the back plate 13.

In order to form end or guide lugs to be spanned by the end jaws of the brake head, I thicken the ends of the back plate 13, the thickened end portions 15 of the back plate being preferably formed by folding each end of the back plate 13 back onto itself, as clearly shown in Figs. 1 and 6 of the drawing.

In forming my improved brake shoe, a bar of wrought iron, soft steel or like ductile metal will be given the shape shown in Fig. 6 of the drawing, and the bar thus shaped will be placed in the mold, after which the cast metal that composes the body of the shoe will be poured into the mold in the usual manner and, when the metal hardens, it will

be found that the back plate 13 will be securely united to the cast metal body of the shoe throughout its length. The bar 13 thus not only serves to strengthen and prolong the life of the shoe, but in case of a fracture of the shoe the bar serves to prevent the dropping of any broken part on to the track where it might cause derailment of a passing train. The raised guide lugs 15 being formed of ductile metal are strong and durable and are easily and cheaply formed. Preferably the edges of the guide lugs 15 are beveled, as at 18, to conform to the Master Car Builders' requirements, and, preferably, also, the end portions of the back plate covered by the overlapping lugs 15 are beveled at their edges, as at 19, thereby forming a dovetailed interlock with the cast metal body of the shoe at such points.

In the preferred embodiment of my invention, the back plate 13 is formed from a bar of uniform width and thickness, the end portions of the bar being twice the thickness of the remaining portions of the bar and ordinary commercial wrought iron or soft steel bars can be used in forming the back plate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. A brake shoe of the character described, comprising a cast metal body and a ductile metal back plate, the ends of said back plate being thickened to form homogeneous guide lugs extending inside the raised end portions of the cast metal body of the shoe.

2. A brake shoe of the character described, comprising a cast metal body and a back plate of ductile metal having its ends folded back upon itself to form guide lugs.

3. A brake shoe of the character described, comprising a cast metal body and a back plate of ductile metal having its end portions beveled and thickened to form guide lugs.

4. A brake shoe of the character described, comprising a cast metal body and a back plate of ductile metal embedded therein, said back plate being substantially of uniform width and having its ends folded back to form guide lugs.

CLIFTON D. PETTIS.

Witnesses:

HARRY L. CLAPP,  
KATHARINE GERLAOH.